

CLAIMS

We Claim:

1. A shaft to transfer torque in a vehicle, comprising:
a first member having internal splines; and
a second member having external splines engagable with said internal splines to allow telescopic movement between said first member and said second member and to transfer torque between said first member and said second member;
said external splines having a coating to reduce friction during the telescopic movement.
2. The invention of claim 1 wherein said first member and said second member are substantially steel.
3. The invention of claim 1 wherein said coating is nylon.
4. The invention of claim 1 wherein said coating is tungsten disulfide.
5. The invention of claim 4 wherein said coating measures less than approximately 10 microns thick.
6. The invention of claim 1 wherein said external spline further includes an isotropic surface finish.

7. A suspension system for a vehicle having a wheel and a power distribution device, comprising:

a biasing device to support the vehicle on the wheel and to absorb road imperfections;

a shaft to transfer torque from the power distribution device to said wheel, the shaft including a first member having internal splines and a second member having external splines engagable with said internal splines to allow telescopic movement between said first member and said second member and to transfer torque between said first member and said second member, said external splines having a coating to reduce friction during the telescopic movement.

8. The invention of claim 7 wherein said first member and said second member are substantially steel.

9. The invention of claim 7 wherein said coating is nylon.

10. The invention of claim 7 wherein said coating is tungsten disulfide.

11. The invention of claim 10 wherein said coating measures less than approximately 10 microns thick.

12. The invention of claim 7 wherein said external spline further includes an isotropic surface finish.

13. The invention of claim 7 wherein one of said first and second members is adapted to couple with the power distribution device and one of said first and second members is adapted to couple with the wheel.

14. The invention of claim 7 further comprising a first universal joint coupling said shaft and the power distribution device.

15. The invention of claim 14 further comprising a second universal joint coupling said shaft and the wheel.